Please replace the paragraph on page 16, lines 13-18 with the following paragraph:

A2

The substrate layer can be prepared from a polymer such as a polyurethane, silicone, silicon-containing polymer, chronoflex, P-HEMA or sol-gel. The substrate layer can be permeable to the analyte of interest, or it can be impermeable. For those embodiments in which the substrate layer is impermeable, the amplification components will be coated on the exterior of the substrate layer and further coated with a permeable layer (see FIG. 14A).

Please replace the paragraph spanning pages 16 and 17 with the following paragraph:

A3

For those embodiments in which a polymer matrix is to be placed in contact with a tissue or fluid, the polymer matrix will preferably be a biocompatible matrix. In addition to being biocompatible, another requirement for this outermost layer of an implantable amplification system is that it be permeable to the analyte of interest. A number of biocompatible polymers are known, including some recently described silicon-containing polymers (see Copending application Ser. No. 08/721,262, filed Sep. 26, 1996, now U.S. Patent No. 5,777,060, and incorporated herein by reference) and hydrogels (see Copending application Ser. No. 08/749,754, filed Oct. 24, 1996, now U.S. Patent No. 5,786,439 , and incorporated herein by reference). Silicone-containing polyurethane can be used for the immobilization of most of the glucose binding systems or other analyte amplification components. Other polymers such as silicone rubbers (NuSil 4550), biostable polyurethanes (Biomer, Tecothane, Tecoflex, Pellethane and others), PEEK (polyether ether ketone) acrylics or combinations are also suitable.

Please replace the paragraph on page 17, lines 9-20 with the following paragraph:

A4

In one group of embodiments, the amplification components are either entrapped in, or covalently attached to a silicone-containing polymer. This polymer is a homogeneous matrix prepared from biologically acceptable polymers whose hydrophobic/hydrophilic balance can be varied over a wide range to control the rate of polyhydroxylated analyte diffusion to the amplification components. The matrix can be prepared by conventional methods by the polymerization of diisocyanates, hydrophilic diols or diamines, silicone polymers and optionally, chain extenders. The resulting polymers are soluble in solvents such as acetone or ethanol and may be formed as a matrix from solution by dip, spray or spin coating. Preparation of biocompatible matrices for glucose monitoring have been described in co-pending applications Ser. Nos.